REMARKS/ARGUMENTS

Claims 2-21, 23-31, and 33-44 are pending in the application. Reconsideration in view the following remarks is respectfully requested.

Claims 2-4, 23-25, 42 and 43 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No.6,012,115, to Chambers et al ("Chambers"). Claims 33-36, 38, 39, 41 and 44 are rejected under 35 U.S.C. 102(e) as being unpatentable over U.S. Patent No. 6,145,039 to Ajanovic et al ("Ajanovic"). Claims 5, 7, 8, 10, 26, 28, 29 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chambers in view of Ajanovic. Claims 11-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ajanovic. Claims 37 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ajanovic in view of U.S. Patent No. 6, 389,029 to McAlear ("McAlear"). Claims 6, 9, 27 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chambers in view of Ajanovic, further in view of McAlear.

Applicants respectfully submit that nowhere does the Chambers reference teach, suggest or disclose "[a] method for communicating data between a host and an agent, the method comprising: performing a first transaction at a first time between a host controller and a hub, said first transaction initiated by said host controller; performing a second transaction between the hub and an agent based on the first transaction at the first time; and repeating, by the host controller, the first transaction at a second time between the host controller and the hub" (e.g., as recited in claim 42).

For support the Office Action cites in general column 2 lines 30-47 of Chambers and Figure 3B. Column 2 lines 30-47 state:

Specifically, the present invention method and system utilizes the start of frame pulse that is transmitted from a USB host controller to all the peripheral devices connected to it to allow a host processor to determine the specific moment in time that a specific event occurred within a real-time peripheral device. When a predetermined event occurs within a real-time peripheral device, it performs a predetermined response. Once this predetermined response occurs, a first timer located within the real-time peripheral device starts incrementing to determine the amount of time that elapses until the next start of frame pulse occurs. Once the next start of frame pulse occurs, the first timer within the real-time peripheral device stops incrementing and stores that time value. The time value stored within the first timer, referred to as the time before start of frame value, represents the time that elapsed between the occurrence of the event within the real-time peripheral device and the occurrence of the "next start of frame pulse." (emphasis supplied).

Applicants respectfully disagree with the Office Action's interpretation of the cited section. The method that is disclosed in column 2 lines 30-47 of Chambers is a method used to determine the specific moment in time that a specific event occurred. This process clearly begins "...when a predetermined event occurs within a real-time peripheral device...". The real-time peripheral device then begins incrementing until any given next start of pulse arrives. The real-time peripheral device then stores this value as the time value as the time before start of frame value. The process of determining the time before start of frame value begins at the real-time peripheral device, without any initiation from any host controller. This interpretation is affirmed by the last sentence of the cited section which states : [t]he time value stored within the first timer, referred to as the time before start of frame value, *represents the time that elapsed between* the occurrence of the event within the real-time peripheral device and the occurrence of the "next start of frame pulse".

Applicants respectfully submit the disclosed sections do not however, recite a teaching suggestion or disclosure of "...performing a first transaction at a first time between a host controller and a hub, said first transaction initiated by said host controller; performing a second transaction between the hub and an agent based on the first

transaction at the first time; and repeating, by the host controller, the first transaction at a second time between the host controller and the hub" as recited in claim 42.

The section pertaining to Fig. 3b in Chambers is quoted below:

Within FIG. 3B, dashed line 313 represents the moment in time that USB host controller 110 (FIG. 1) polls and interrogates the peripheral device (e.g., lightpen 116) to determine if an event occurred related to that peripheral device within the last 1 ms frame. **When interrogated by USB host controller 110 at dashed line 313, the peripheral device (e.g., lightpen 116) transmits data to the USB host controller 110 indicating that (1) event pulse 306 (FIG. 3A) occurred and (2) the counter register 203 value representing the time before start of frame value 310. Upon receiving this data from the peripheral device, the USB host controller 110 of FIG. 1 interrupts host processor 102 over bus 100 and then transfers it the data related to the event that occurred within the peripheral device. Once host processor 102 receives the transmitted data related to the peripheral device (e.g., lightpen 116), it is instructed to retrieve the count value from the counter register 205 located within USB host controller 110.** Before the occurrence of start of frame pulse 311, dashed line 314 represents the moment in time that host processor 102 retrieves the timer value from counter 205 of the USB host controller 110, which measures the time after start of frame value 312. The time after start of frame value 312 represents the amount of time that elapsed between the occurrence of the last generated start of frame pulse, start of frame pulse 308, and the moment host processor 102 read the counter register 205 located within the USB host controller 110. (emphasis supplied).

Here the cited section describes a process of determining another time period, specifically the time *after* start of frame value. In order to do this, the host controller interrogates the peripheral, which sends data pertaining to the time before start of frame value (discussed above) back to the host controller. The *host controller* then interrupts the host processor, which then proceeds to retrieve the count value from the counter register located within the host controller indicating the calculated time *after* start of frame value.

Again, Applicants assert the disclosed sections do not however, teach suggest or disclose "…performing a first transaction at a first time between a host controller and a hub, said first transaction initiated by said host controller; performing a second transaction between the hub and an agent based on the first transaction at the first time; and repeating, by the host controller, the first transaction at a second time between the host controller and the hub" as recited in claim 42. Indeed, Chambers is silent about the interaction between the host controller 110 and the root hub 111. Applicants respectfully

submit that each and every element is not taught, suggested or disclosed by the cited reference, and therefore the 102(e) rejection is lacking and should be withdrawn. Claim 43 includes substantively similar limitations and therefore should be allowed for the same reasons. Claims 2-5, 8, 23-26, and 29 depend from allowable independent claims, and therefore should be allowed as well.

Applicants respectfully submit that nowhere does the Ajanovic reference teach, suggest or disclose "[a] digital system comprising: a first hub controller adapted to initiate and perform a first transaction at a first time with a host controller and to initiate and perform the first transaction at a second time with the host controller; a second hub controller coupled to the first hub controller and adapted to perform a second transaction with an agent based upon the first transaction at the first time; and wherein the first transaction at the second time is performed after the second transaction" (e.g., as recited in claim 44).

The Office Action has cited column 2 line 64, column 5 lines 52-60, and the description of Figures 3. Column 2 line 64 states: "For example, a Request packet is used to start a transaction and a separate Completion packet may subsequently be used to terminate a transaction, *if necessary*". Column 5 line 52 – column 5 line 60 states:

> In one embodiment, the hub link uses a packet-based protocol with two types of packets: request and completion. A request packet is used for each hub link transaction. Completion packets are used where required, for example, **to return read data, or to acknowledge completion of certain types of write transactions** (e.g., I/O writes and memory writes with requested completion). Completion packets are associated with their corresponding request packets by transaction descriptors and ordering, as previously discussed in the section on the Transaction Layer. (emphasis supplied).

The Office Action asserts elements 204 and 206 of Ajanovic as being a host controller and a hub respectively.

First, Applicants submit the Completion packet of Ajanovic has an alternate purpose than the Response packet and is sent in response to the Request packet, and

therefore cannot be the same "first transaction". However, it is also clear from Ajanovic that the Completion packet, whose purpose is to *return* read data, or to *acknowledge* completion of data – if sent at all (see above), is not from the same source and to the same destination as that of the Request packet. Instead, it is clear that in Ajanovic that the source and destination of the Request packet become the destination and the source respectively of Completion packet. However, claim 44 states "...a first hub controller adapted to initiate and perform a first transaction at a first time with a host controller *and to initiate and perform the first transaction at a second time with the host controller"*. Applicants respectfully submit that each and every element of claim 44 is not taught, suggested or disclosed by the cited reference, and therefore the 102(e) rejection is lacking and should be withdrawn. Claims 33-36, 38, 39, and 41 depend from allowable independent claim 44, and therefore should be allowed as well.
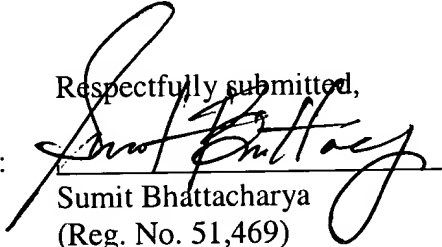
The Office Action rejects claims 11-21 under 35 U.S.C. 103(a) as being unpatentable over Ajanovic, claims 37 and 40 as being unpatentable over Ajanovic in view McAlear and claims 6, 9, 27 and 30 over Chambers in view of Ajanovic, further in view of McAlear. However, Applicants reiterate the arguments presented above concerning the allowability of the remaining claims. McAlear does not teach, suggest or disclose to at least those elements of claims 42, 43, 44 discussed above, and therefore fails to make up for the deficiencies of both Ajanovic and Chambers. Therefore, Applicants respectfully submit that the claims 6, 9, 11-21, 27, 30, 37 and 40 are allowable. Reconsideration and withdrawal of the rejection of these claims under 35 U.S.C. § 103(a) is respectfully requested.

Additionally, Applicants submit that Ajanovic names the same assignee as the present application. Its is believed that for all relevant time periods, both the inventors of Ajanovic and the present application have had obligations to assign their inventions to that assignee. Accordingly, under 35 U.S.C. § 103(c), Ajanovic, as a § 102(e) type reference, may not be used as a reference to forward an 35 U.S.C. § 103(a) type rejection.

For all the above reasons, the Applicants respectfully submit that this application is in condition for allowance. A Notice of Allowance is earnestly solicited.

The Examiner is invited to contact the undersigned at (408) 975-7500 to discuss any matter concerning this application. The Office is hereby authorized to charge any additional fees or credit any overpayments under 37 C.F.R. § 1.16 or § 1.17 to Deposit Account No. **11-0600**.

Respectfully submitted,

Dated: <u>July 19, 2004</u>   By: _____
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